APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,097	12/14/2004	Norbert Boll	2002P09525WOUS	5413

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
 Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 December 2007</u>.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>27-49</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>27-49</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>14 December 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103 :

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art. ·
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

3.   **Claims 27-28, 30-31, 33-34, 36-38 and 40-48** rejected under 35 U.S.C. 103(a) as being

unpatentable over Heink et al. (US Pg Pub 2003/0174729), hereinafter referred to as Heink, in

view of Cohen et al. (US Pat 6,404,861), hereinafter referred to as Cohen.

4.   For **claims 27, 36 and 42**, Heink teaches an Asynchronous Transfer Mode (ATM) port

with integrated Ethernet switch interface **[title]**. The encapsulation of ATM cells into Ethernet

frames **[0066]** includes aggregating the payload of an ATM cell **[0071]**. Then checking to ensure

the ATM payload does not exceed the maximum size for Ethernet payload. If the maximum size

is not reached, another ATM cell is added to the Ethernet frame **[0072]** (inserting the information

that is to be transmitted as payload into a payload-field of a data packet of the packet-oriented

communication network). A destination Media Access Control (MAC) address is added to the

Ethernet frame before the ATM cell is placed into the frame **[0068]** (inserting target information into the data packet). The Destination MAC (DMAC) address is delivered via port address either directly or coded as a binary number that is converted via configurable table **[0068]**. After the DMAC is set, the Source MAC address is assigned **[0069]** (assigning routing information to the information which is to be transmitted prior to the insertion into the payload-field of the data packet for an onward transmission). The Ethernet frames are forwarded according to their DMAC addresses **[0063]** (forwarding the information transmitted to the target in accordance with the assigned routing information; transmitting the data packet, the information inserted into the data packet, and the assigned routing information to a target represented by the target information of the data packet in the packet-oriented communication network).

5.   Heink's teachings can be implemented in a Digital Subscriber Line (DSL) environment **[0010]**. Heink adds the destination Media Access Control (MAC) address to an Ethernet frame before an ATM cell is placed into the frame **[0068]**. Heink does not teach the destination MAC field is used to identify a subscriber information line. Cohen expands on the teachings of Heink by disclosing a DSL multiplexer that uses the destination MAC address to identify the subscriber line to which data has to be sent **[col. 10 lines 5-16]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention use the destination MAC address to identify a particular subscriber information line in Heink's invention because MAC addresses in a network are unique.

6.   For **claims 28 and 45**, Heink teaches ATM packets have a pre-pended port address that specifies the output port of the Ethernet switch **[0065]**. Virtual Local Area Networks (VLAN) can be used to separate the Ethernet switch ports **[0109]** (claim 28: wherein the information

inserted into the payload-field of the data packet is assigned to at least one virtual connection made at least partially via the packet-oriented communication network; claim 45: wherein at least one connection unit or central unit located in the communication device and including the respective switching mechanisms is represented by the target information of the at least one data packet).

7. . For **claims 30, 37, 43 and 46**, as discussed in the rejection of **claim 27**, an ATM packet is encapsulated into an Ethernet frame (the information to be transmitted is a component of at least one data cell of a cell-oriented communication network). Figure 6 of Heink discloses an ATM controller that interacts bi-directionally with an Ethernet encapsulating unit and an ATM physical layer (wherein the at least one data cell transmitted to the at least one target in the packet-oriented communication network is forwarded to/via the cell-oriented communication network according to the assigned routing information).

8. For **claims 31, 38 and 44**, Heink teaches when a destination device has determined it is the destination device for an Ethernet packet, the entire Ethernet packet header and payload are removed and only the ATM payload is forwarded to an ATM controller **[0078]** (wherein before the at least one data cell is forwarded to/via the cell-oriented communication network the further information field is removed).

9. For **claims 33, 40 and 47**, the rejection of **claims 27, 36 and 42** discusses the use of an ATM network.

10. For **claims 34, 41 and 48**, the rejection of **claims 27, 36 and 42** discusses the use of an IEEE 802.3 network.

11.   **Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heink in view of

Cohen, as applied to **claim 27**, and further in view of Sasson et al. (US Pat 6,728,261),

hereinafter referred to as Sasson.

12.   For **claim 29**, Heink does not teach wide area network routing. Sasson teaches the wide

are networking limitation absent from the teachings of Heink by disclosing an ATM over IP

[title] method and system capable of being used in a wide area network **[abstract and figure 1]**

(wherein the information transmitted to the target in the packet-oriented communication network

is replicated according to the routing information and the replicated information is then

forwarded).

13.   It would have been obvious to a person of ordinary skill in the art at the time of the

invention to use wide area networking in Heink's invention since IP-based networks expand

beyond local networks.

14.   **Claims 32, 35 and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Heink in view of Cohen, as applied to **claims 30, 33 and 37**, and further in view of Roberts

("Request for Coordination of Frames in Cells Specification").

15.   For **claims 32 and 39** Heink does not teach the insertion of information pertaining to the

number of cells. Roberts teaches the insertion of information pertaining to the number of cells

limitation absent from the teachings of Heink by disclosing a cell payload field indicates the

number of cell payloads following a Cells in Frames (CIF) header **[page 18, 1st paragraph]**

(wherein an item of information representing the number of data cells inserted into the payload-

field of the data packet is inserted into the data packet).

16.   It would have been obvious to a person of ordinary skill in the art at the time of the

invention to include the a number representing the number of data cells in Heink's invention so a

device knows which header belongs to which payload.

17.   For **claim 35**, Heink teaches everything in parent **claim 27**. Heink does not teach routing

information includes information for identifying an ATM service class. Roberts teaches the

service class identification limitation absent from the teachings of Heink by disclosing

Transmission Control Protocol (TCP) flow control activity is determined by whether or not ATM

Available Bit Rate flow control is active **[page 5, CIF Design section]** (wherein the routing

information includes further information for identifying an ATM service class).

18.   It would have been obvious to a person of ordinary skill in the art at the time of the

invention to include ATM service class information in routing information in Heink's invention

to make sure the IP deliver method is used for an ATM service class.

19.   **Claim 49** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heink in view of

Cohen, Roberts and Bechtolsheim et al. (US Pat 6,515, 963), hereinafter referred to as

Bechtolsheim.

20.   For **claim 49**, Heink teaches everything in parent **claim 47**. Heink does not teach using

routing information to identify a service class or assigning a queue to each service class. The

rejection of **claim 35** discloses the use of routing information to identify a service class. The

rejection of **claim 35** also provides the motivation to combine. Bechtolsheim teaches the service

class queue limitation absent from the teachings of Heink by disclosing a queuing embodiment

where a separate queue is provided for each service class **[col. 13 lines 60-65]** (wherein the

routing information includes information for identifying an ATM service class, wherein a

corresponding queue located on the appropriate connection unit is assigned to each ATM service

class concerned).

21.   It would have been obvious to a person of ordinary skill in the art at the time of the

invention to provide a queue for each service class in Heink's invention to allow for per-flow

buffer management.

Response to Arguments

22.   Applicant's arguments with respect to **claims 27-49** have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

23.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
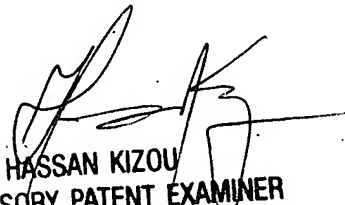
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571) 270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Patent Examiner
02/13/2008

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